

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (Original): A process for the production of oxandrolone comprising the steps of:

- (a) oxidizing mestanolone using IBX to form 17 β -hydroxy-17 α -methyl-5 α -androst-1-en-3-one;
- (b) hydroxylating the 17 β -hydroxy-17 α -methyl-5 α -androst-1-en-3-one using osmium tetroxide to form 1 α , 2 α , 17 β -trihydroxy-17 α -methylandrostan-3-one;
- (c) cleaving the 1 α , 2 α , 17 β -trihydroxy-17 α -methylandrostan-3-one using sodium metaperiodate to form 17 β -hydroxy-17 α -methyl-1-oxo-1,2,-seco-A-nor-5 α -androstan-2-oic acid; and
- (d) reducing the 17 β -hydroxy-17 α -methyl-1-oxo-1,2,-seco-A-nor-5 α -androstan-2-oic acid using sodium borohydride followed by an acid treatment to form oxandrolone.

Claim 2 (Original): The process of claim 1 wherein at least two by-products are formed in step (a) that are non-reactive to steps (b) and (c).

Claim 3 (Original): The process of claim 1 wherein step (b) is carried out using osmium tetroxide and N-methylmorpholine N-oxide.

Claim 4 (Original): The process of claim 1 wherein the acid treatment of step (d) comprises addition of hydrochloric acid.

Claim 5 (Original): The process of claim 1 wherein the process is performed without the use of lead tetraacetate.

Claim 6 (Original): A process for the production of oxandrolone comprising the steps of:

(a) oxidizing mestanolone to form 17 β -hydroxy-17 α -methyl-5 α -androst-1-en-3-one;

(b) hydroxylating the 17 β -hydroxy-17 α -methyl-5 α -androst-1-en-3-one to form 1 α , 2 α , 17 β -trihydroxy-17 α -methylandrostan-3-one;

(c) cleaving the 1 α , 2 α , 17 β -trihydroxy-17 α -methylandrostan-3-one to form 17 β -hydroxy-17 α -methyl-1-oxo-1,2,-seco-A-nor-5 α -androstan-2-oic acid; and

(d) reducing the 17 β -hydroxy-17 α -methyl-1-oxo-1,2,-seco-A-nor-5 α -androstan-2-oic acid to form oxandrolone.

Claim 7 (Original): The process of claim 6 wherein step (a) is carried out using IBX.

Claim 8 (Original): The process of claim 6 wherein at least two by-products are formed in step (a) that are non-reactive to steps (b) and (c).

Claim 9 (Original): The process of claim 6 wherein step (b) is carried out using osmium tetroxide.

Claim 10 (Original): The process of claim 9 wherein step (b) is carried out using osmium tetroxide and N-methylmorpholine N-oxide.

Claim 11 (Original): The process of claim 6 wherein step (c) is carried out using sodium metaperiodate.

Claim 12 (Original): The process of claim 6 wherein step (d) is carried out using sodium borohydride followed by an acid treatment.

Claim 13 (Original): The process of claim 12 wherein the acid treatment comprises addition of hydrochloric acid.

Claim 14 (Original): The process of claim 6 wherein the process is performed without the use of lead tetraacetate.

Claim 15 (Original): A process for the production of oxandrolone comprising the steps of:

(a) reacting mestanolone with IBX to form 17 β -hydroxy-17 α -methyl-5 α -androst-1-en-3-one;

(b) reacting the 17 β -hydroxy-17 α -methyl-5 α -androst-1-en-3-one with osmium tetroxide and N-methylmorpholine N-oxide to form 1 α , 2 α , 17 β -trihydroxy-17 α -methylandrostan-3-one;

(c) reacting the 1 α , 2 α , 17 β -trihydroxy-17 α -methylandrostan-3-one with sodium metaperiodate to form 17 β -hydroxy-17 α -methyl-1-oxo-1,2,-seco-A-nor-5 α -androstan-2-oic acid;

(d) forming oxandrolone from the 17 β -hydroxy-17 α -methyl-1-oxo-1,2,-seco-A-nor-5 α -androstan-2-oic acid by reacting the 17 β -hydroxy-17 α -methyl-1-oxo-1,2,-seco-A-nor-5 α -androstan-2-oic acid with sodium borohydride followed by an acid treatment comprising addition of hydrochloric acid.

Claim 16 (Original): The process of claim 15 wherein the molar ratio of mestanolone to IBX in step (a) is about 1:1.5.

Claim 17 (Original): The process of claim 15 wherein step (a) is performed in a 2:1 mixture of toluene to dimethyl sulfoxide, step (b) is performed in a 1:1 mixture of tetrahydrofuran to acetone, and step (c) is performed in a 1:4 mixture of tetrahydrofuran to CH₂Cl₂.

Claim 18 (Original): The process of claim 15 wherein the process is performed without the use of lead tetraacetate.

Claim 19 (Original): The process of claim 15 wherein at least two by-products are formed in step (a) that are non-reactive to steps (b) and (c).

Claim 20 (Original): A process for the production of oxandrolone comprising the steps of:

(a) oxidizing mestanolone using IBX to form 17 β -hydroxy-17 α -methyl-5 α -androst-1-en-3-one;

(b) hydroxylating the 17 β -hydroxy-17 α -methyl-5 α -androst-1-en-3-one to form 1 α , 2 α , 17 β -trihydroxy-17 α -methylandrostan-3-one;

(c) cleaving the 1 α , 2 α , 17 β -trihydroxy-17 α -methylandrostan-3-one to form 17 β -hydroxy-17 α -methyl-1-oxo-1,2,-seco-A-nor-5 α -androstan-2-oic acid; and

(d) reducing the 17 β -hydroxy-17 α -methyl-1-oxo-1,2,-seco-A-nor-5 α -androstan-2-oic acid to form oxandrolone;

wherein at least two by-products are formed in step (a) that are non-reactive to steps (b) and (c).

Claims 21-32 (Canceled).